

# **Michigan Traffic Safety Engineering Action Team Action Plan 2013-2016**

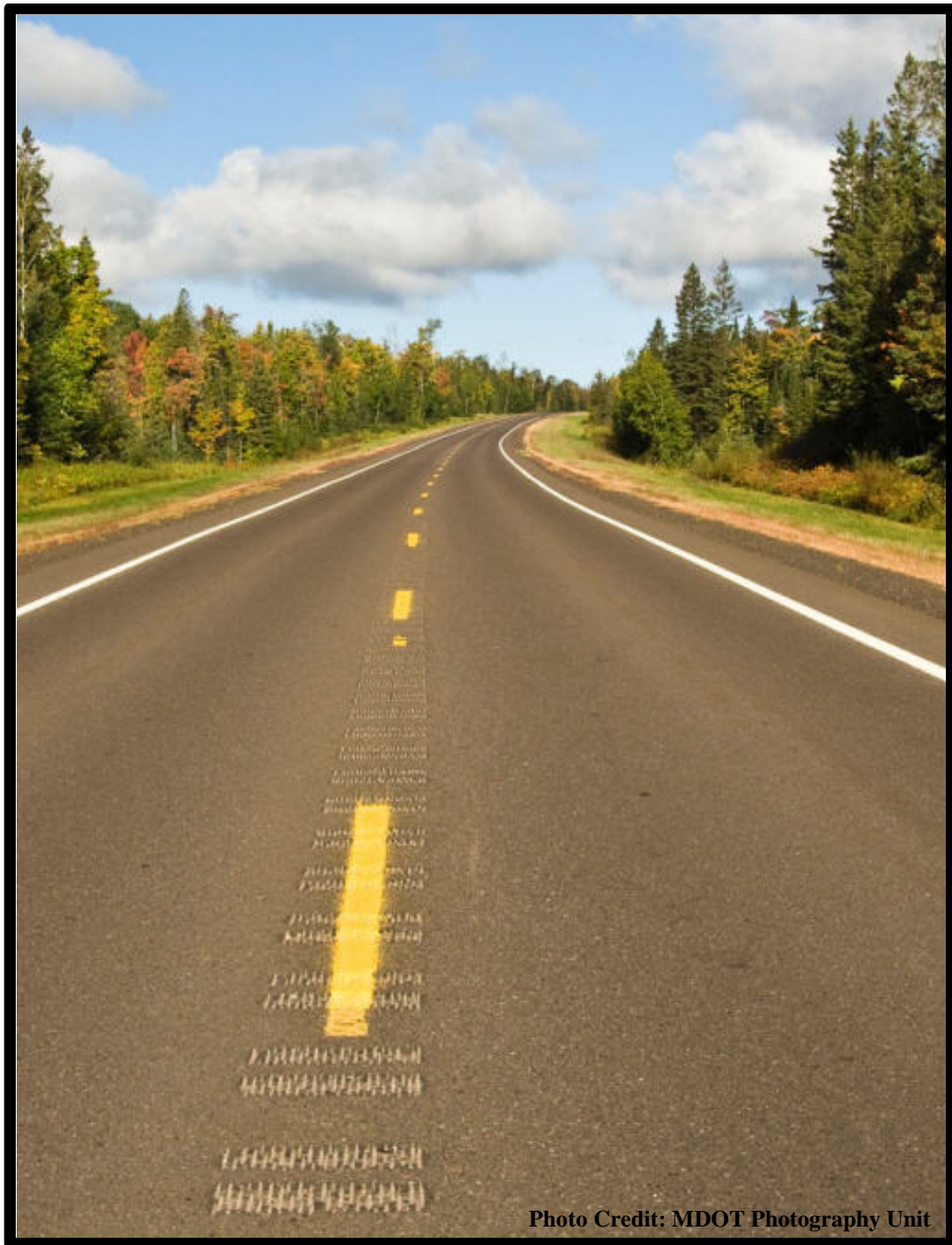


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## CONTENTS

Disclaimer Statement .....	2
Introduction.....	3
Definition of High Risk Rural Roads.....	3
Historical Data .....	4
Goals .....	4
Strategies .....	4
Acronyms .....	8
Acknowledgements .....	8

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### Disclaimer Statement

This document has been prepared by the members of the Traffic Safety Engineering Action Team. It is considered a living document, and is a compilation of activities and initiatives to address infrastructure safety in the state of Michigan.

The Action Team is part of a network of ad hoc committees comprised of local, state, federal, and private partners, working in collaboration with the Governor's Traffic Safety Advisory Commission (GTSAC) to identify traffic safety challenges and comprehensive solutions. The result of these efforts will support achievement of the mission, vision, and goals identified in the State's Strategic Highway Safety Plan (SHSP). While the strategies identified in the State's SHSP have been approved by the GTSAC, the activities and initiatives identified in this Action Plan, as well as any opinions or conclusions expressed, are those of the individual Action Team member agencies and not necessarily those of the GTSAC.

## Introduction

The Traffic Safety Engineering Action Team (TSEAT) was formed by joining the former action teams of intersection safety and lane departure. In Michigan in 2011, lane departures accounted for 18.5 percent of crashes and 48.6 percent of fatal crashes while intersection crashes accounted for 29.5 percent of crashes and 22.5 percent of fatal crashes. These percentages can fluctuate depending on which region of the state is analyzed. The TSEAT works to identify a set of strategies that can be implemented for lane departure (i.e. cable barriers), intersections (i.e. box spans) or both (i.e. pavement markings) and promote their research and use. Of special interest are the development of low-cost safety countermeasures that can be used statewide. The TSEAT also works to improve safety data, sponsor research and collaborate with partners to identify and promote opportunities for funding.

## Definition of High Risk Rural Roads

Section 1112 of the Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21) changed the definition of a “high risk rural road” (HRRR) in 23 USC 148(a)(1) to: “any roadway functionally classified as a rural major or minor collector or a rural local road with significant safety risks, as defined by a State in accordance with an updated State strategic highway safety plan.” The definition of a HRRR in MAP-21 provides flexibility to individual states in determining HRRRs. The definition of a HRRR is still limited to the same functional classifications under the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU), rural major and minor collectors and rural local roads. However, only roads within those functional classifications, “with significant safety risks”, will become roadways designated as HRRRs. The legislation requires states to define the significant safety risks of these roads in their updated State Highway Safety Plans (SHSPs).

To determine what a “significant safety risk” is, a state may develop their own methodologies, as identified in their updated SHSPs for the specified roadway functional classifications. Per SAFETEA-LU, HRRR funds were targeted for roadways that have crash rates for fatalities and incapacitating injuries exceeding the statewide average, or will have an increase in traffic volume likely to create an accident rate above the statewide average on rural major or minor collectors, or rural local roads.

According to the SAFETEA-LU definition, Michigan Department of Transportation (MDOT) included local and trunk line locations. However, MDOT did review the definition and applied further criteria. Rather than developing a rating (crashes/million vehicle miles traveled), MDOT calculated an average density of severe crashes (One severe crash could support Y miles of work or X crashes per intersection) that would make a road/intersection eligible. Functional class eligibility did not change. In addition, HRRR funds were only directed to local roads in the effort to address fatalities and serious injuries on the local system. Any identified state trunk line location was addressed with Highway Safety Improvement Program (HSIP) funded improvements.

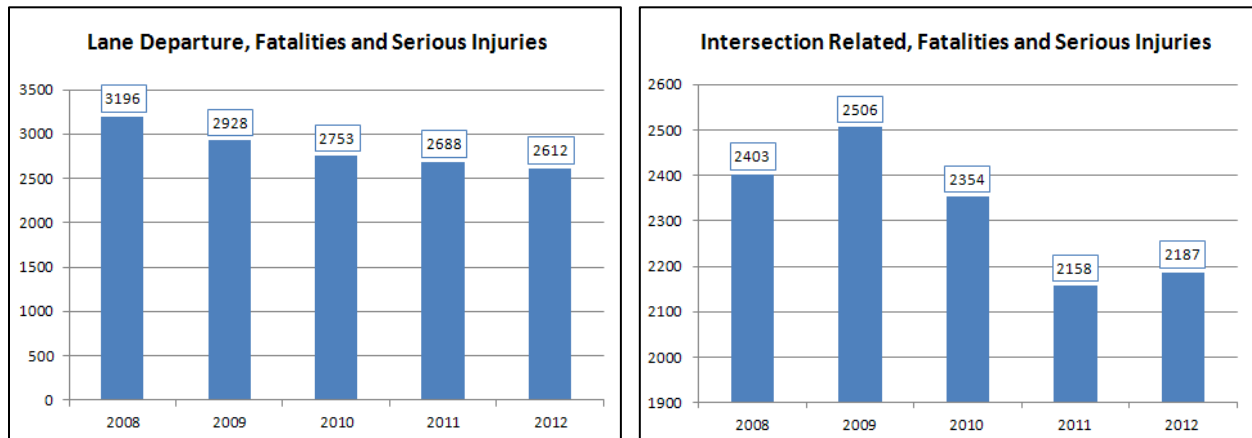
For the purposes of meeting MAP-21 requirements, an HRRR in Michigan is defined as:

A roadway functionally classified as a rural major or minor collector or rural local road and within the most recent five-year time period of available crash data, at least X intersection crashes resulting in fatalities (K) or incapacitating injuries (A) has occurred; or one serious crash has occurred within a Y mile-long segment of such roadway:

Where:	Y	=	1/r
	R	=	Statewide average frequency of K+A crashes per mile of such roadway over a five-year time period
	X	=	1

## Historical Data

The following two figures show the previous five years of fatalities and incapacitating injuries combined for both lane departure and intersection crashes statewide.



## Goals

The goal of the TSEAT is to support the GTSAC in their life saving efforts. The efforts of the TSEAT may not be limited to Lane Departure and Intersection strategies; however, based on statewide need it is the focus of this action team.

- Reduce fatalities from 704 in 2012 to no more than 584 in 2016.
- Reduce incapacitating injuries from 4,095 in 2012 to no more than 3,345 in 2016.

### Lane Departure Goals

Save 80 lives by 2016.

Reduce incapacitating injuries by 400 by 2016.

### Intersection Goals

Save 40 lives by 2016 .

Reduce incapacitating injuries by 350 by 2016.

## Strategies

**Promote infrastructure safety through outreach and communication.**

### Objective #1

Identify, participate in and promote relevant safety activities that will reduce traffic fatalities and serious injuries for both intersections and roads.

### **Short-Term (1-2 years) Activities:**

Develop and publish an engineering infrastructure safety brochure to be distributed statewide. (2014)

Lead Agency: MDOT

Contact Name: TSEAT Chairs

Collaborate with additional Metropolitan Planning Organizations (MPOs), rural task forces and others to gain participation with the Traffic Safety Engineering Action Team. (2014)

*Lead Agency: MDOT*

*Contact Name: TSEAT Chairs*

**Ongoing Activities:**

Ensure the annual Michigan Traffic Safety Summit includes engineering infrastructure related topics of interest to state and local road owners.

*Lead Agency: MDOT*

*Contact Name: TSEAT Chairs*

Identify best practices that promote actions to reduce the frequency and severity of crashes and add to the existing structure for awards presented at the annual Michigan Traffic Safety Summit.

*Lead Agency: Federal Highway Administration (FHWA)*

Maintain a list of presentations, speakers and promotional materials available to discuss engineering related safety topics at safety forums statewide.

*Lead Agency: FHWA*

Promote new initiatives through a variety of media including the internet, print, radio, TV, etc.

*Lead Agency: MDOT*

*Contact Name: TSEAT Chairs*

Identify, develop and deliver traffic safety training courses.

*Lead Agency: MDOT*

*Contact Name: TSEAT Chairs*

*Lead Agency: Southeast Michigan Council of Governments (SEMCOG)*

<b>Identify and resolve safety data issues.</b>
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**Objective #2**

Monitor the collection, content and administration of Michigan's safety data (including crash, but also geometric features), and advocate for any improvements in the data system that would improve the identification and selection of infrastructure safety projects.

**Short-Term (1-2 years) Activities:**

Create a matrix that identifies safety analysis tools, their function, location, accessibility, etc. (2014)

*Lead Agency: MDOT*

*Contact Name: TSEAT Chairs*

**Mid-Term (3-5 years) Activities:**

Ensure the intent of engineering related data elements is included in crash data training for law enforcement. (2016)

*Lead Agency: MDOT*

*Contact Name: TSEAT Chairs*

**Ongoing Activities:**

Promote the types, uses, and benefits of collecting roadway data for safety needs.

*Lead Agency: MDOT*

*Contact Name: TSEAT Chairs*

Participate in crash form revision to ensure engineering related data needs are met.

*Lead Agency: MDOT*

*Contact Name: TSEAT Chairs*

Collaborate with the Crash Data Users Group (CDUG) to resolve safety data issues.

*Lead Agency: MDOT*

*Contact Name: TSEAT Chairs*

<b>Promote and sponsor research on infrastructure safety.</b>
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**Objective #3**

Routinely identify traffic safety research needs that can be completed or funded by the different agencies involved in maintaining and building Michigan's infrastructure. The TSEAT will also promote other completed research.

***Ongoing Activities:***

Promote relevant state and national level research results.

*Lead Agency: MDOT*

*Contact Name: TSEAT Chairs*

Provide annual report on Transportation Research Board (TRB) Annual Conference findings.

*Lead Agency: MDOT*

*Contact Name: TSEAT member attending TRB Annual Meeting*

Provide suggestions for research topics to the appropriate agency.

*Lead Agency: MDOT*

*Contact Name: TSEAT Chairs*

Seek participation in pooled fund studies.

*Lead Agency: MDOT*

*Contact Name: TSEAT Chairs*

Identify and promote informal research results and publications that may be of interest to the engineering community.

*Lead Agency: MDOT*

*Contact Name: TSEAT Chairs*

<b>Broaden the use of currently accepted and proven countermeasures.</b>
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**Objective #4**

Using currently accepted and proven countermeasures, work with parent organizations to reduce the time, cost, and other barriers associated with making and implementing safety investments.

***Ongoing Activities:***

Broaden the use of lane departure treatments including: high friction surface treatments, cable barrier, rumble strips, rumble stripes, delineation, continuous line delineation, safety edge, wider edge lines, etc.

*Lead Agency: TSEAT*

*Contact Name: TSEAT Chairs*

Broaden the use of intersection treatments including: high friction surface treatments, signal retiming/optimization, signal visibility, signal back plates, roundabouts, lighting, etc.

*Lead Agency: TSEAT*  
*Contact Name: TSEAT Chairs*

Broaden the use of access management as a safety treatment.  
*Lead Agency: MDOT*  
*Contact Name: TSEAT Chairs*

<b>Develop, research and pilot test new countermeasures.</b>
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**Objective #5**

Take advantage of innovative, creative solutions to highway safety challenges by developing, researching, and pilot testing of new countermeasures. Promote the use of innovative application of communication technologies and new designs to improving highway safety operations.

***Long-Term (5+ years) Activities:***

Promote lane departure treatments including: adaptive speed limits, horizontal signing, speed cameras, cable barrier on shoulders, connected vehicle technologies, 2+1 roads, etc. (2017)

*Lead Agency: MDOT*  
*Contact Name: TSEAT Chairs*

Promote intersection treatments including: connected vehicle technologies, mini roundabouts, signalized roundabouts, horizontal signing, intersection conflict warning systems, etc. (2017)

*Lead Agency: MDOT*  
*Contact Name: TSEAT Chairs*

***Ongoing Activities:***

Seek out new countermeasures for potential use in Michigan by various means including webinars, scans, peer exchanges, etc.

*Lead Agency: FHWA*

<b>Collaborate with partners to identify and promote opportunities for funding.</b>
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**Objective #6**

Collaborate with stakeholders to capitalize on funding opportunities to address highway traffic safety needs.

***Short-Term (1-2 years) Activities:***

Promote and foster partnerships for funding opportunities with tribal governments for mutually beneficial highway safety projects. (2015)

*Lead Agency: MDOT*  
*Contact Name: TSEAT Chairs*

***Ongoing Activities:***

Promote and offer the Local Safety Initiative to local agencies.

*Lead Agency: MDOT*  
*Contact Name: TSEAT Chairs*

Develop annual call for safety projects programs – trunk line and non-trunk line.

*Lead Agency: MDOT*  
*Contact Name: TSEAT Chairs*

## Acronyms

FHWA	Federal Highway Administration
GTSAC	Governor's Traffic Safety Advisory Commission
HRRR	High Risk Rural Roads
HSIP	Highway Safety Improvement Program
MAP-21	Moving Ahead for Progress in the 21 <sup>st</sup> Century Act
MDOT	Michigan Department of Transportation
MPO	Metropolitan Planning Organization
SAFETEA-LU	Safe, Affordable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users
SEMCOG	Southeast Michigan Council of Governments
SHSP	Strategic Highway Safety Plan
TRB	Transportation Research Board
TSEAT	Traffic Safety Engineering Action Team

## Acknowledgements

The TSEAT is comprised of members of the following agencies:

American Automobile Association  
Beaubien Engineering  
DLZ Consultants  
Federal Highway Administration  
Kent County Road Commission  
Local Technical Assistance Program  
Michigan Department of Transportation  
Office of Highway Safety Planning  
Opus International Consultants  
Parsons Brinkerhoff  
Road Commission for Oakland County  
Southeast Michigan Council of Governments  
Traffic Improvement Association of Michigan  
University of Michigan Transportation Research Institute  
Van Buren County Road Commission  
Washtenaw Area Transportation Study  
Washtenaw County Road Commission  
Wayne State University